Waste Management Issues for Hurricane Isabel Cleanup

Hurricanes and associated storms typically generate large amounts of solid waste through wind damage and/or flooding. Solid wastes generated may include debris waste, demolition waste, spoiled food, household goods and products, and other municipal solid wastes. After a hurricane, permitted solid waste management facilities typically experience significant increases in waste intake rates due to the cleanup efforts which may strain their normal capabilities. Nonetheless, they are still required to meet all regulatory and permit requirements, or obtain temporary modifications of their permits as approved by the Department. DEQ may also issue emergency permits for the temporary storage and treatment of vegetative waste and solid waste debris to assist with the cleanup effort.

Individuals and businesses can assist local, state, and federal authorities to properly manage the waste and move cleanup efforts forward by following some common sense recommendations when managing their wastes after a hurricane. As with most waste management issues, Virginia recommends following the solid waste management hierarchy when considering waste management options. The hierarchy includes 1) Planning, 2) Source reduction, 3) Reuse, 4) Reclamation, 5) Resource Recovery, 6) Incineration, and 7) Landfilling.

Individuals and businesses should plan for disposal of wastes to the extent possible before taking action to clean up and remove debris, damaged goods or other waste materials from their property. Source reduction and waste stream separation is not only strongly encouraged but also necessary in many cases. By source separating only damaged goods or materials for disposal and retaining or reusing undamaged goods the disposal burden is reduced. Whenever possible, goods or materials should be reused in the same manner as originally intended and may be used as substitute materials in some cases. If goods or materials cannot be directly reused, reclamation should be considered as a means to recover a usable product or regenerate the material into a usable form. Goods or materials may also be sent to a permitted resource recovery facility for collection, separation, use, reuse, reclamation, recovery of energy values, or segregation and disposal of non-recoverable waste residues. If a resource recovery facility is not convenient to your location, transport to an incineration facility for energy recovery is preferred over landfilling.

When taking wastes to permitted facilities for management, it is advisable to contact the waste management facility before transporting the waste to verify their hours of operation and waste streams they are permitted to accept. Emergency permitted debris sites are generally established to only take vegetative wastes. Normal municipal solid wastes (e.g. spoiled foods, wet carpet, damaged furniture, etc) should be managed through normal waste management outlets (municipal pickup, transfer stations, permitted landfills, convenience centers). It is recommended that households curtail seasonal cleanouts until after the Hurricane Isabel cleanup effort has abated and circumstances return to normal. Permitted facilities will be focusing most of their resources on managing the large amounts of waste generated solely from the cleanup of storm debris. Also, businesses can assist by considering local recycling or reclamation facilities for handling waste streams such as paper, plastics, and wood wastes generated from shipping of replacement goods and materials in lieu of disposal through normal means.

Examples of typical wastes generated during hurricanes are listed below along with a list of possible management options for individuals and businesses. Your local government representatives or DEQ's regional office staff may be aware of other waste management options available in your area and should be contacted if you have any questions. DEQ does not provide waste removal or disposal services, but does provide technical advice and regulatory oversight to those agencies, government entities and contractors that do.

Debris Waste includes stumps, wood, brush, leaves, and soil.
Logs and branches may be cut for firewood. Source reduction may be achieved by separating large and small logs from other debris and having large logs go to a sawmill for lumber production. Smaller logs may be taken to a paper mill for pulpwood paper production. Small branches and leaves may be chipped or ground and used as mulch, animal bedding, or for erosion control. If the above is not feasible, unadulterated wood may be chipped or ground and used for energy recovery as boiler fuel. Also, vegetative yard wastes (leave, twigs, branches, etc.) may be composted at the home or taken to a yard waste composting facility. Debris wastes may also be taken to a temporary permitted debris management area. However, they are allowed to take vegetative debris wastes ONLY and will not accept any other types of waste.

Spoiled Food
Spoiled foods may be composted at home using leaves and small branches. Otherwise, they should be handled as normal wastes and managed through pickup or delivery to a transfer station or landfill. Containerized foods should be managed as normal household waste.

Treated Wood (power poles, bridge pier pilings, treated lumber used in fences, decks, etc.)
These materials should **not** be burned or mulched. These materials should be considered for reuse to repair damaged structures such as decks, fences, boat docks or piers, bulkheads, etc. or used for decorative landscape timbers in yards and parking lots. If these materials are generated from homes, they may be taken to the landfill but should **not** be taken to debris management areas for mulching or burning. Treated woods from businesses generated in significant quantities may be donated to local, state, or federal agencies who may employ the material as noted above or have other uses for it, for example, to rebuild damaged parks and recreation areas. You should contact these entities prior making any arrangements for transport.

Propane Cylinders
Spent propane cylinders should be taken for refilling so they may be used again. Often, tanks may be refilled or exchanged for full tanks by local retailers. If the tank cannot be used again, it should be confirmed empty and may be taken to a scrap metal recycler or managed at your local transfer station or landfill, as allowed. Tanks must be confirmed empty prior to disposal by equalizing the interior of the tank to atmospheric pressure. Homeowners or businesses should contact local scrap metal recyclers or transfer stations/landfills to confirm they will accept these materials.

White Goods
The term refers to stoves, washers, hot water heaters, and other large appliances.
Damaged and non-repairable white goods should be taken to a metal recycler or may be managed at a transfer station/landfill. Homeowners and businesses should contact local scrap metal recyclers or transfer station/landfill to confirm they will accept these materials. Some items may be repaired or refurbished for reuse through charity outlets.

Demolition Waste refers to waste produced by the destruction of buildings or structures and their foundations. Most demolition wastes cannot be recycled without some active source separation. However, rock, brick, block, dirt, and broken concrete may be source separated and landfilled without a permit (see 9 VAC 20-80-60.D.7) or reused for other construction projects as clean fill material. Architectural materials (e.g. mantles, window casings, doors, fixtures, etc.) may also be recovered for reuse or restoration projects. All other demolition wastes must be managed at a Sanitary or CDD landfill. Most building demolition wastes should not be burned due to the potential formation of toxic residues.

> ***Asbestos Containing Wastes*** - Asbestos containing materials may be found in demolition waste, including such items as floor tiles, shingles, siding, and insulation from buildings of older construction. These materials require special management for landfill

disposal. Generators should contact landfills prior to transporting the materials for disposal and determine if there are any special requirements or approvals necessary.

Lead Paint Abatement Waste - Many older houses and buildings may have lead based paint, both interior and exterior. Material generated under lead abatement programs and normal repair/renovations that is exclusively from households enjoys special exclusions under EPA regulations and may be managed at normal sanitary landfills. However, any demolition wastes from businesses/institutions *or* total demolitions of households may require special management as a hazardous waste. In no case should such waste be burned, buried on site, or mixed with other vegetative debris waste for mulching.

Construction Waste refers to waste produced or generated during construction, remodeling, or repair of pavement, houses, commercial buildings and other structures. It includes, but is not limited to, lumber, wire, sheetrock, shingles, glass, pipes, empty containers, etc. Typically, mixed construction waste cannot be recycled and must be taken to Sanitary or CDD landfill. However, some materials may be source separated and recovered for their architectural value, directly reused, or reclaimed as scrap metals (e.g. copper piping).

Household Hazardous Waste -- households may be dealing with flood damaged and discarded household products such as paints, cleaning chemicals and fuels. **In general, citizens should hold any household hazardous wastes for normally scheduled collection events in their areas when circumstances return to normal**. Household hazardous waste is not subject to regulation the same as business hazardous waste and may be managed at sanitary landfills. It is recommended that landfills currently operating household hazardous waste collection facilities consider possible expansion of those activities to accommodate increased demand for materials that must be managed. Landfills not currently operating household collection programs should consider temporary collection areas to separate it from other debris wastes, or plan a future collection event in conjunction with the local government. In no case should citizens mix household hazardous wastes with vegetative waste or debris waste intended for management at temporary permitted sites.

Spent Batteries may be generated from flashlights, cell phones, laptop computers, etc. Common AA, AAA, C, and D size batteries are usually either carbon-zinc or alkaline type. All household waste batteries, with the exception of lead-acid automobile batteries, may be managed at sanitary landfills with normal household trash. Businesses, government and institutional generators of batteries that may be regulated as hazardous wastes must either dispose of them as hazardous waste or manage them for recycling as a Universal Waste. These would include lead-acid batteries, silver oxide batteries, Ni-Cd batteries, and lithium batteries, among others, but do not include typical carbon-zinc or alkaline batteries.

Lead-acid automobile type batteries are collected for reclamation by most automobile maintenance businesses, automobile parts retailers, and at some landfills if not mixed with other waste. Please note it is unlawful to dispose of lead-acid type batteries through normal trash collection services, even those generated by households. They should be taken to a battery retailer/wholesaler or a collection/reclamation facility, or may be exchanged when purchasing new batteries.

Petroleum Contaminated Materials refers to materials contaminated solely with petroleum and petroleum products including, but not limited to, diesel fuel, kerosene, gasoline, hydraulic fluids, jet engine fuel, and motor oil.

Household materials contaminated with petroleum products as a result of storm damage may be disposed of at a permitted landfill, but cannot be managed through the special vegetative waste only sites. Soils contaminated with petroleum products resulting from ordinary household functions may be disposed with general household waste or at sanitary landfills.

Petroleum contaminated articles from businesses will require special management if they are hazardous waste. If not hazardous waste, they may still require management as a special solid waste depending on contamination levels.

Contaminated soils resulting from a petroleum product spill emergency cleanup may be approved for disposal by the DEQ director provided that the waste is non-hazardous. Contaminated soil resulting from a storage tank release or spill may be exempted from testing or disposal limits provided the total volume is less than 20 cubic yards and the contaminated soil is not hazardous waste. Generators should contact their local transfer station/landfill prior to transporting materials for disposal to determine if there are any special requirements, testing or approvals necessary.